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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,557	04/20/2004	Anthony A. Barretto	33631.1	3790

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EXAMINER

JORDAN, STEPHEN W

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

5

Office Action Summary	Application No. 10/827,557	Applicant(s) BARRETTO ET AL.	
	Examiner Stephen Jordan	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/20/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it contains numbered references to the drawings. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: Page 8, line 9 "With the vacuum applied and the singulated units 110 are attached..." The sentence is grammatically incorrect and lacks clear definition. Appropriate correction is required.

Drawings

The drawings are objected to because features 410 and 630 in the drawings are not identified in the specification. Feature 700 is apparently mislabeled as "710". The drawings are objected to because the function of the flipping station is unclear. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes

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made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 9 recites the limitation "the" in "the flipping device". There is insufficient antecedent basis for this limitation in the claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The function of the flipping device is unclear, and, for

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example, can be interpreted as a device used to flip between hot and cold temperatures.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 9 rejected under 35 U.S.C. 102(b) as being anticipated by 6019564 (Kiyokawa). A semiconductor lifting apparatus (Kiyokawa figure 1) which comprises a substrate tray (Kiyokawa, figure 3, feature 4) having an array of positioning recesses formed therein (Kiyokawa, figure 2, feature 5) to accommodate a plurality of semiconductor devices, protrusions (Kiyokawa, figure 3, features 20A and 20B) attached to a raising plate (Kiyokawa, figure 3, features 12, 13 and/or 14) elevators comprising piston rods and drive means attached to a wall (Kiyokawa, column 10 lines 1-2) for vertically moving semiconductor devices (Kiyokawa, column 4 lines 9-15). (Drive means are considered to be a first actuator). A vacuum suction device with 3 contact arms picks up and transfers IC's within a thermostatic chamber (Kiyokawa, column 1 lines 49-59. The temperature can be "flipped" to a preset high or low temperature to stress the IC's (Kiyokawa, column 1 lines 63-64) (The action of changing between heating and cooling is one of a myriad of definitions of "flipping" thereby making the temperature chamber a "flipping station").

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-13 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 575484 (Garcia) and further in view of US6205745 (Dudderar). Regarding claims 9-11; Garcia teaches a semiconductor lifting apparatus (Garcia figure 5) comprising a lifting plate (Garcia, figure 5, feature 44) with a plurality of flat, rectangular protrusions (Garcia, figure 5, features 42) a substrate tray (Garcia, figure 5, feature 138) with a plurality of depressions, (Garcia, figure 5, features 134 within feature 136), with holes (Garcia, figure 5, features 134 within feature 138), a first actuator coupled to the plate to raise and lower the plate (Garcia, figure 5, feature 40), regarding claim 13; a pneumatic cylinder (Garcia, column 5 line 63), regarding claim 15; pins 42 transfer components into passageway 134 (Garcia, column 6 lines 7-9). Garcia does not teach a lifting device with vacuum pads. Dudderar teaches a pick and place tool to pick with first and second vacuum heads to invert chips (Dudderar, column 1 lines 49-53), regarding claim 12; square apertures are depicted (Dudderar, figure 11, feature 34), regarding claims 16 and 17; sprocket holes serve as alignment means (Dudderar, column 2 line 48), regarding claim 18; the vacuum head of the pick and place machine (Dudderar, column 1 line 39-40), regarding claims 19-21; chips are

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dispensed for solder bonding with solder bumps (Dudderar, column 2 line 65 - column 3 line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the lifting apparatus of Garcia to utilize the pick and place apparatus of Dudderar in order to transfer chips to other processing stations (Dudderar, column 1 lines 14-15).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia and Dudderar as applied to claim 9 above, and further in view of US 6003676 (Beyer). Garcia and Dudderar do not teach use of hydraulic actuators. Beyer teaches the use of pneumatic or hydraulic actuators (Beyer, column 7 lines 2-3) in manufacturing carrier tapes for use with surface mount components (Beyer, column 1 lines 12-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined lifting apparatus of Garcia and Dudderar to utilize the hydraulic actuators of Beyer in order to facilitate automatic handling (Beyer, column 1 lines 12-16).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Jordan whose telephone number is 571-272-0899. The examiner can normally be reached on 8:00-5:30M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SWJ

Len Tran 
AU 1725
Primary Examiner
2/9/06